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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,733	10/18/2001	Joshua D. Karnes	M-12001 US	7827

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EXAMINER

VORTMAN, ANATOLY

ART UNIT PAPER NUMBER

2835

DATE MAILED: 02/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/982,733

Applicant(s)

KARNES ET AL.

Examiner

Anatoly Vortman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 49-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 49-68, claim 49 recites the word "means" (last line of the claim) in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s) preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1-91 are rejected under 35 U.S.C. 102(b) as being anticipated by US/5,572,181 to Kiryu et al., (Kiryu).

Regarding claims 1, 49, 50, 51, and 53, Kiryu disclosed a fuse assembly (Fig. 1) comprising: a fuse element (12) prepared in a substantially non-linear form, the fuse element comprising at least two terminals, the at least two terminals comprising a first terminal and a second terminal; at least two conductive end caps (11) being coupled to the first terminal and to the second terminal; and a fuse body comprising a dielectric material (13, 14) adapted to substantially enclose the fuse element (12) between the at least two end caps (11).

Regarding the functional recitations of claims 1 and 53 that "the fuse element being capable of experiencing arcing as a result of an opening being created in at least a portion of the fuse element, the opening having two ends, the dielectric material forces arcing between the two the two ends to traverse a path consistent with the non-linear form", it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138. Therefore, the aforementioned functional recitation has not been given patentable weight.

Also, the fuse element of Kiryu would inherently behave upon opening in exactly the same manner as the fuse element of the present invention, since structurally the fuse assemblies of the present invention and of Kiryu are identical.

Regarding claims 3, 9, 10, 12-14, 49 and 52, Kiryu disclosed means comprising a portion (13) of dielectric material (13, 14) positioned between an area bounded by the prepared fuse element (12) and a line connecting the at least two end caps (11) for increasing a dielectric

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separation to impede the arcing by forcing the arcing (inherently) to follow the path along the curve (of the fuse element (12)).

Regarding claims 2 and 68, Kiryu disclosed that non-linear form of the fuse element (12) is substantially a curve (Fig. 1).

Regarding claims 4, 11, and 54, Kiryu disclosed that the at least portion (13) of the dielectric material (13, 14) comprises a superior dielectric material (column 3, lines 53+).

Regarding claim 5, Kiryu disclosed that the path of arcing would be consistent (inherently) with the shape of the at least a portion (13) of dielectric material (13, 14).

Regarding claims 6-8, 55,57, and 58, Kiryu disclosed that the arcing causes formation of a carbon conductive path along a surface of the at least portion of the dielectric material (13) that reduces the insulating value of the dielectric material (column 3, lines 64+ and column 4, lines 1-3).

Regarding claims 15-17, 59, and 60, Kiryu disclosed that an excessive current is causing an opening in the fuse element (12) due to the meltdown of at least the portion of said fuse element (12) (column 3, lines 60+), wherein the arc is formed between the ends of said opening (inherently).

Regarding claims 61, 62, and 64, Kiryu disclosed means comprising a portion (13) of dielectric material (13, 14) positioned between an area bounded by the prepared fuse element (12) and a line connecting the at least two end caps (11) for increasing a dielectric separation to impede the arcing by forcing the arcing (inherently) to follow the path along the curve (of the fuse element (12)).

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Regarding claim 63, Kiryu disclosed that the at least a portion (13) of the dielectric material (13, 14) comprises a superior dielectric material (column 3, lines 53+).

Regarding claims 65-67, Kiryu disclosed that the arcing causes formation of a carbon conductive path along a surface of the at least portion of the dielectric material (13) that reduces the insulating value of the dielectric material (column 3, lines 64+ and column 4, lines 1-3).

Regarding claims 18-48 and 69-91, the method steps recited in the claims are inherently necessitated by the device structure as disclosed by Kiryu.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

US/5883562, 6462925, 5936509, 3953818, 4599597, 4635023, 3786388, 4198617, 4071837, 5858454, 2302820, and 4441093 disclosed electrical fuses with curved fusible elements.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 703-308-7824.

The examiner can normally be reached on 9:30-6:00, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Darren Schuberg can be reached on 703-308-4815. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Anatoly Vortman  
Primary Examiner  
Art Unit 2835

A.V.  
December 12, 2002

A handwritten signature in dark ink, appearing to read "A. Vortman", followed by a horizontal line.